

CLAIMS

What is claimed is:

1. An electronic device, comprising:
control logic; and
a plurality of ports configurable by said control logic as determined by a programmable register, wherein each of said ports is configurable to operate as a single communication link to a single device or as a plurality of independent communication links to a plurality of devices.
2. The device of claim 1 wherein said programmable register can be written to specify a configuration for each port.
3. The device of claim 2 wherein each port may have a configuration that differs from at least one other port.
4. The device of claim 2 wherein each port is configurable to one of a plurality of configurations by a plurality of bits associated with that port.
5. The device of claim 4 wherein said plurality of configurations includes a single communication link configuration and a multi-communication link configuration.
6. The device of claim 5 wherein said multi-communication link configuration includes a two communication link configuration and a four communication link configuration.
7. The device of claim 6 wherein said multi-communication link configuration further includes a three communication link configuration.

8. The device of claim 1 wherein each port is configurable to operate as a single communication link, a pair of independent communication links or four independent communication links.
9. The device of claim 1 wherein said device comprises a network switch that is adapted to receive port configuration information from a computer coupled to said switch.
10. A multi-port switch, comprising:
 - a processor; and
 - a plurality of ports configurable by said processor, each port adapted to couple to a device to form at least part of a network, and wherein each of said ports is configurable to operate as either a single communication link to a single device or as a plurality of sub-ports to a plurality of separate devices.
11. The switch of claim 10 wherein one of said devices transmits configuration information to said switch, said configuration specifying how each port is to be configured.
12. The switch of claim 10 wherein the ports can be configured dynamically while the switch is operating to route packets between devices coupled to said switch.
13. The switch of claim 10 wherein each port is configurable to operate as at least three sub-ports.
14. A switch, comprising:
 - control logic;
 - a plurality of ports coupled to said control logic;

means for selectively configuring each of said ports to operate as a single communication link to a single device or as a plurality of communication links each to a separate device.

15. The switch of claim 14 wherein said means includes means for selectively configuring each port to operate as two or four communication links.

16. The switch of claim 14 wherein said means includes means for configuring each port differently than at least one other port.

17. A switch, comprising:
a plurality of ports adapted to couple to a plurality of network devices, each port providing at least one communication link; and
control logic operable to configure the switch to dynamically vary the number of communication links associated with at least one port.

18. The switch of claim 17 wherein three or more links are configured with the at least one port.

19. The switch of claim 17 wherein a port comprises a single communication link and the at least one port comprises at least two independently operable communication links.

20. The switch of claim 19 wherein the at least one port comprises at least three independently operable communication links.

21. The switch of claim 17 wherein each port is programmable to have a different number of communication links than at least one other port.

22. The switch of claim 17 wherein each port is programmable to have a communication link having a width that is different from a width that is programmable in at least one other communication link.

23. A network, comprising:
 - a multi-port switch; and
 - a plurality of network devices coupled to said switch and in communication with each other via said switch;wherein each port can be programmed to provide a plurality of independently operable links to at least some of said network devices, each port also being programmable to provide a single communication link to only a single network device.
24. The network of claim 23 wherein one of said network devices provides programming information to said switch to program said ports.
25. The network of claim 23 wherein each port can be programmed to provide one, two, three or four independent communication links.
26. The network of claim 25 wherein the port includes a plurality of conductors and wherein said two, three and four communication links are formed using at least some of the same conductors that are used when the port provides only a single communication link.
27. A method, comprising:
 - determining the number of devices coupled to a switch port; and
 - programming said switch port to provide two or more independent communication links if said number is greater than one.
28. The method of claim 27 wherein the switch port includes conductors and wherein programming the switch port includes causing said two or more independent communication links to be formed using at least some of the conductors that are used if only a single device couples to said switch port.